UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET N.E.
ATLANTA, GEORGIA 30365

VIA TELEFAX

REF: 4WD-SSRB

MAY 2 1 1991

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YELLOW

James C. Brown, Manager
Environmental Affairs Department
Olin Chemicals
Post Office Box 248
Charleston, Tennessee 37310

RE: Olin Corp./McIntosh Plant Superfund Site
McIntosh, Alabama - Comments on Revised Sampling and Analysis Plan

Dear Mr. Brown:

EPA has reviewed the Revised Sampling and Analysis plan and requests the modifications as identified in the enclosed document. Please provide a line-by-line response to each comment (including the location of your response in the revised document) on or before **June 22, 1992**. If you feel that a meeting would be helpful prior to submittal of the revised document, please give me a call at your convenience to confirm a date, time and location.

Please note that the Administrative Order by Consent (AOC) requires resubmission within thirty days of receipt of the notice of disapproval and notification directing modification. If the document is not approved upon resubmission, you are in violation of the AOC and stipulated penalties will begin to accrue pursuant to Section XVI of the AOC.

I expect to issue comments on the Preliminary Site Characterization Summary Report not later than June 8, 1992. In addition, I will contact you regarding schedule modifications by May 26, 1992.

Sincerely,

Cheryl W. Smith

Enclosure

cc: Joe Downey, ADEM
Toni Odom, Olin
Pete Douglas, US Fish and Wildlife Service

TECHNICAL REVIEW OF
REVISED SAMPLING AND ANALYSIS PLAN
Olin Corporation
McIntosh, Alabama

YELLOW

GENERAL COMMENTS

1. *Many grammatical and typographical errors occur throughout the document. It is recommend that the document undergo a thorough in-house editorial review.*

2. *The title of the document, "Revised Sampling and Analysis Plan," is confusing. Change document title to Phase III Sampling and Analysis Plan (SAP), since this is not a revision to a previously approved SAP.*

3. *Section 2.1.1 of the text presents a combination of 10 Solid Waste Management Units (SWMU) and Areas of Concern (AOC) that have been identified in the RCRA Facility Assessment (RFA) as requiring further investigation. Other SWMUs and AOCs found by the RFA to need further investigation are discussed in Table 1; the discussion includes a suggestion for meeting the RFA recommendation. However, AOC E, four former underground storage tanks that were found by the RFA to need further investigation, is not discussed in any section of the SAP. AOC E should be discussed in the text, and, if sampling is required, the proposed sampling should be part of this document. Provide documentation to support rationale for not sampling this area, if applicable.*

   In addition, the RFA identified the plugged brine injection wells as a SWMU. The SAP does not provide a proposal to confirm the presence or absence of contaminants emanating from these sources. Provide a propsoal that discusses the likelihood of contaminant migration, the sensitivity of the montioring equipment associated with these wells, and the location of the plug (i.e., depth) in each well. The proposal should also include monitoring wells that would detect migration of contaminants if the wells were to fail. Provide a figure that identifies the location of the injection wells as well as associated monitoring wells.

4. *The descriptions of each closed SWMU or AOC presented in the text should identify the regulations under which each unit was closed (for example, Alabama Department of Environmental Management or U.S. Environmental Protection Agency), if applicable, and the date of closure. This is important for identifying areas that might not have been closed adequately and that might be contributing contamination to the site.*

5. *Provide a proposal for sampling of wells screened in Miocene aquifer to confirm the presence or absence of site contaminants at this level.*

6. *The relative health of the basin can only be determined from an adequate description of the community in the basin by way of comparisons to expected community and population structure and abundance. Provide a plan to sample the biota which includes trophic levels that will provide a determination of accessibility to upper level organisms (i.e., fish eating birds, etc). Invertebrate and vertebrate food items for avian species, such as earthworms and small mammals, as well as a predator snake species, would be appropriate target species.*

   Provide a proposal for further sampling of basin sediments which contain high levels of Mercury and Hexachlorobenzene are recommended to determine the maximum vertical extent of contamination.

7. *Provide an assessment (either via sampling and/or modeling) of the environmental affect of chlorobenzene and hexachlorobenzene, since these compounds possess the ability to bioaccumulate.*

8. *Quality control samples for bentonite and sand used in well construction should be collected and analyzed in accordance with standard operating procedures. Analysis of this samples will help determine if these materials are a source of the contamination.*

   Additional samples should be collected anytime a new batch or lot number of material is used.

SPECIFIC COMMENTS

1. *Section 1.0, Page 1, Paragraph 1. The word "Plan" should be included in the sentence describing the subject document, the "Sampling and Analysis (SAP). . ."*

2. *Section 1.0, Page 1, Last Paragraph. The language in this paragraph is unclear. Paragraph could be interpreted to read "Olin monitors and reports on numerous facilities, outside of Olin/McIntosh Plant...." Please clarify.*

3. *Section 1.0, Page 1, Paragraph 3. The text states that the Pentachloronitrobenzene (PCNB) Plant was constructed on "an adjacent portion of the site." The actual PCNB Plant area, as shown in Figure 2, is located in the south-central portion of the site, as*

defined by the indicated property boundary. If the site boundary was expanded to include the PCNB plant area, then this should be stated in the text.

4. *Section 1.0, Page 1, Paragraph 3. No history of the Mercury Cell Plant is given in the introduction, although the text states that the Mercury Cell Plant was shut down in late 1982. Please include in the introduction the date of construction of the Mercury Cell Plant and any pertinent information about its operation.*

5. *Section 1.0, Page 2, Paragraph 1. It is unclear which plant areas are permitted under RCRA regulations (SWMUs, injection wells, and neutralization and percolation field). From the text, it appears that only the corrective action program (CAP) and treatment program currently is permitted under RCRA regulations. The SAP should clarify this point.*

6. *Section 1.1, Page 3. The narrative on work conducted to date should also include all work conducted after July 17, 1991, including field activities.*

7. *Section 1.2, Page 4, Paragraph 2. The fourth sentence of the text refers to 40 CFR 271.1(c). This reference should be revised to 40 CFR 270.1(c).*

8. *Section 2.1.1, Page 7, Footnote. Collect samples at the visually stained/unstained interface for confirmation.*

9. *Section 2.1.1, Page 8, Paragraph 2. A better indication of the types of "general plant debris" disposed of in the Old Plant (CPC) Landfill during the years 1972 to 1977 should be included to determine whether the landfill is a continuing source of organic contamination.*

10. *Section 2.1.1, Page 8, Paragraph 2. The text should indicate whether the neutralized wastewater, which was discharged to the Old Plant (CPC) Landfill, was allowed to percolate into the ground or flowed into surrounding areas. If the water flowed beyond the Old Plant (CPC) Landfill, then the final destination of the wastewater should be given. In addition, the text should indicate the date the Old Plant (CPC) Landfill was closed under Alabama Department of Environmental Management (ADEM) regulations.*

11. *Section 2.1.1, Page 8, Paragraph 3. The text should be revised to correct the code citation from 40 CFR 265 to 40 CFR 264.*

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12. *Section 2.1.1, Page 9. Identify the source of mercury contamination and substantiate the claim provided in the first sentence.*

13. *Section 2.1.1, Page 9. The discussion of the Sanitary Landfills includes information on the possibility that hexachlorobenzene (HCB) and mercury sludges were disposed of in the Sanitary Landfills. The text states that it is more likely that these types of wastes were disposed of in the Old Plant (CPC) Landfill, but the previous discussion on the Old Plant (CPC) Landfill indicates that only "general plant debris" was disposed of there. The text should include the possibility that HCB and mercury sludges were disposed of in the Sanitary Landfills. In the appropriate section, this document should include a complete description of the waste types potentially disposed of in each source.*

14. *Section 2.1.1, Pages 9 - 12. The locations of the Used Oil Tank and Unloading Area, Hydrazine Wastewater Unloading Area, Old Plant (CPC) Landfill Drainage Ditch, and Well Sand Residue Area discussed in this section should be shown on Figure 2, Facility Layout Map, and included by reference in the respective sections of 2.1.1 that describe each area.*

15. *Section 2.1.1, Page 11, Paragraph 0, Sentence 1. The text discusses calculated "relative response" values without explaining the basis for determining the value. The method for calculating "relative response" values should be described, so that the reader can understand the significance of the value.*

16. *Section 2.1.1, Page 11, Paragraph 1, Sentences 4 and 5. Provide a review of site aerial photographs in SAP. This will allow for proper determination as to the adequacy of sampling locations for the former drainage ditch to the Old CPC Plant landfill.*

17. *Section 2.1.1, Page 11, Paragraph 2. In the discussion of the Mercury Cell Plant, the document should include the regulations under which the area was closed and capped.*

18. *Section 2.1.1, Page 12, Paragraph 1. The discussion on the Well Sand Residue Area should include the date Olin began depositing the sand residues in the brine well cavities.*

19. *Section 2.1.1, Page 12, Paragraph 2. The discussion on the Strong Brine Pond, should include the date of closure and the regulations under which the area was closed.*

20. *Section 2.1.2, Page 16, Paragraph 2. The criteria for evidence of release cited in the RFA for the Stormwater Pond and the Brine Filter Backwash Pond should be included in the text.*

21. *Section 2.2.1, Page 17, Paragraph 3, last sentence. The acronym "PCHB" should be revised to read "PCNB".*

22. *Section 2.2.1, Page 18, Paragraph 2. The text should state the type of water sample (that is, surface water or ground water) in which mercury was detected at levels at or below drinking water standards.*

23. *Section 2.2.2, Page 18, Paragraph 1. The date the OU-2 site characterization activities were initiated (that is, the date the remedial investigation began) should be included in the text.*

24. *Section 2.2.2.1, Page 21, Paragraph 1. The text indicates that core C2 was collected to a total depth of 5 feet, where a mercury concentration of 33.2 mg/kg was detected; however, Figure 9 indicates that core C2 was sampled to a total depth of 13.5 feet. Figure 9 indicates that the Phase 1 and Phase II C2 core samples have been combined, but this presentation is unclear in the text. The document should be revised to indicate clearly Phase I and Phase II sampling results.*

25. *Section 2.2.2.1, Page 21, Paragraph 2. The presentation of contaminants and concentrations in this paragraph is confusing. The paragraph should reference the tables where the sample results are tabulated.*

26. *Section 2.2.2.1, Page 21, Paragraph 2. The text in the second sentence states that only core C3 contained hexachlorobenzene. However, core C2 is reported to contain a screening concentration of 1.7 µg/kg hexachlorobenzene, according to Figure 9 and Table 3. Report concentration in the text.*

27. *Section 2.2.2.1, Page 21, Paragraph 4. The significance of comparison between concentrations of dichlorobenzene and hexachlorobenzene is unclear. Provide language that clearly discusses the relevance intended in this statement.*

28. *Section 2.2.2.1, Page 22, Paragraph 4. Although Olin claims never to have handled pesticides at the McIntosh facility, the presence of pesticides in the basin is evident, as*

sampling results indicate. Pesticides should not be excluded as a contaminant of concern. Determine the source of this pesticide contamination.

29. *Section 2.2.2.1, Page 24, Paragraph 2. The text discusses HCB contamination in the wastewater drainage ditches but does not address the need for additional sampling. Define the horizontal extent of contamination in the vicinity of sediment samples OD01, DD04, and DD03, which had detected HCB concentrations of 85.7, 55.2, and 970.0 mg/kg, respectively. The sample locations are in a wetland area that is prone to flooding by the Tombigbee River; such flooding might have caused dispersal of sediment contamination into the adjoining wetlands.*

30. *Section 2.2.2.1, Page 23, Paragraph 2. The purpose of the remedial investigation is to identify all contaminants at the site, as well as the vertical and horizontal extent of contamination. Therefore, the holding time and contaminant attribution are not acceptable criteria for the exclusion of HCB, 4,4-DDD, 4,4-DDE, and 4,4-DDT as indicator contaminants.*

31. *Section 2.2.2.1, Pages 24-26. Region IV Sediment Screening Values for Hazardous Waste Sites should be used in evaluating sediment metal concentrations, in addition to regional background values. The Region IV Sediment Screening Values for Hazardous Waste Sites are based on NOAA's Biological Effects Range Values as identified in the document cited below. The maximum values of antimony, lead, and zinc appear to have exceeded these screening values.*

Long, Edward R., and Lee G. Morgan. 1990. The potential for biological effects of sediment-sorbed contaminants tested in the National Status and Trends Program. NOAA Technical Memorandum NOS OMA 52. Office of Oceanography and Marine Assessment, Seattle, Washington.

32. *Section 2.2.2.1, Page 24, Paragraph 3. Values for inorganic compounds discussed in the text are compared to common ranges for each constituent as reported in SW-874 (U.S. EPA, 1983). However, for purposes of accurate comparisons, background and control samples also should be collected within the study area to further evaluate the significance of the detected ranges for each Target Analyte List (TAL) metal.*

33. *Section 2.2.2.2, Figure 9. Core C2-2 is not shown in Figure 9. Also, the vertical scale does not correspond with the core depths shown.*

34. Section 2.2.2.2, Page 27. *The document fails to discuss whether the vertical extent of contamination can be determined. The vertical extent of contamination in the wastewater ditch, specifically at sample location OD15, has not yet been determined from Phase II core data. Collect an adjacent core in the wastewater ditch at the depth of OD15.*

The EPA contractor observed a 2- to 3-inch layer of an unidentified white material in the 3- to 4-foot interval of core OD15 during oversight of Phase II sampling activities. Provide an explanation of the identity of this material.

35. Section 2.2.2.2, Page 28, Paragraph 2, last two sentences. *The text should state the reason the surficial sample (0- to 1-foot interval) of core OD15 was not analyzed for mercury. If the reasoning is based on the Phase I results, those results should be stated.*

36. Section 2.2.2.2, Page 28, Paragraph 3. *The text refers to core sample CE2; however, no core sample CE2 appears in the appropriate tables or in Figure 9. Based on results presented in Table 4, core CE-2 is shown as core E-2. Please correct this discrepancy.*

37. Section 2.2.2.2, Page 28, Paragraph 1, last sentence. *The text states that hard clay was encountered at the 2- to 3-foot interval of core OD25. However, Figure 9 indicates that this interval is composed of sand. Please resolve this discrepancy.*

38. Section 3.1, Page 30, Bullet 2. *Change 40 CFR 265 at the end of the sentence to 40 CFR 264.*

39. Section 3.1, Page 30, Bullet 2. *The text indicates that additional sampling is needed to assess whether the SWMUs that were clean-closed under 40 CFR 265 satisfy the requirements of clean closure under 40 CFR 265. The text should include the clean closure criteria as required by 40 CFR 264.*

40. Section 3.1.1, Page 30. *The text states that the sampling objective at the Old Plant (CPC) Landfill is to determine whether the landfill is a continuing source of ground water contamination. Furthermore, the assessment will be performed by characterizing soil and waste samples. However, ground water sampling is not proposed as a part of the assessment. In order to determine whether the landfill is a continuing source of ground water contamination, a complete assessment should include ground water sampling and*

analysis. To properly characterize the source, provide a sampling strategy for the immediate vicinity of the landfill.

41. *Section 3.1.2, Page 31. The sampling objective for the Lime Ponds is to determine whether the ponds are a source of mercury contamination of ground water. The text states that objective will be accomplished by determining the mercury content of the buried lime waste and assessing the leachability of any detected mercury. To perform a complete assessment of the Lime Ponds, provide a sampling strategy for additional boring locations and ground water sampling of the immediate vicinity of the ponds.*

42. *Section 3.1.3, Page 31. Information in Section 2.0 indicates there are two sanitary landfills; however, this information is not indicated in the heading of Section 3.1.3.*

Also, the sampling objective is to establish whether contamination is present in the sanitary landfills. Based on the results of sampling activities, a conclusion cannot be drawn to determine whether or not the landfill was used for the disposal of wastes containing HCB or mercury. At least three vertical composites are required.

43. *Section 3.1.6, Page 32. Provide an assessment of the wind pattern over this area to determine the possible dispersion of mercury to the surficial soils in the vicinity of this unit. Subsequently, prepare a plan for sampling (i.e., gird of the area) to coincide with the possible dispersion pattern.*

44. *Section 3.1.9, Page 33. List the SWMUs clean-closed under 40 CFR 265. Change 40 CFR 265 on the third line to 40 CFR 264.*

Also, the text should include information on the applicable standards to be used for comparison of soils for the clean-closure equivalency demonstrations.

45. *Section 4.0. Quantitation limits for analytes in sediments should be at or below the effects range-low (ER-L) values of Long and Morgan (1990). The ER-L for mercury is 0.15 mg/kg (dry weight), 0.001 mg/kg for DDT, and 0.002 mg/kg for DDE and DDD.*

In addition to total mercury, sediment samples should be analyzed for acid volatile sulfides (AVS) and simultaneously extracted metals (SEM) and the ratio of SEM/AVS calculated. Organic mercury analyses also should be conducted for sediments. Analyzing for AVS/SEM and organic mercury will provide greater insight into the bioavailability of the mercury within

the system. The presence of mercury in fish tissue samples from the Basin indicates that mercury is in a bioavailable form.

Analyze all samples for TCL pesticides due to the presence of DDT, DDE and DDD.

46. *Section 4.1.1, Page 36. Provide an approximate total depth from land surface for the proposed soil borings at the Old Plant (CPC) Landfill.*

47. *Section 4.1.1, Page 37. It should be clearly stated whether the samples collected from the four borings in the Old Plant (CPC) Landfill will be analyzed separately. Provide the total number of samples proposed for this location as well as additional boring locations.*

48. *Section 4.1.2, Page 38. The text does not state the approximate location of each boring to be collected from the two Lime Ponds; however, Figure 15 indicates the borings are to be collected from the centers of the former ponds. The text should include this information.*

49. *Section 4.1.3, Page 38. If available, provide the approximate depth to the base of the waste material. Provide proposal for additional sampling locations. In addition, if the base of the waste can not be determined during drilling operations, give an estimated maximum boring depth to assure that representative samples are collected.*

Randomly select the location for placement of three borings within this unit.

50. *Section 4.1.4, Page 39. The text states that 2 composite soil samples will be collected from one boring. Table 6, Summary of Sampling Activities, lists only one composite soil sample to be collected and analyzed. Please clarify.*

51. *Section 4.1.4, Page 39. Provide the proposed locations for the borings. The proposed boring, or a second boring, must be collected as close to the existing wastewater ditch as possible. That area might have been least disturbed by earthmoving activities.*

Transfer samples collected for volatile organic analyses directly to the sample container. Text must state that these samples will not be composited.

52. *Section 4.1.5, Page 40, Last Paragraph. This section refers to monitoring wells MW-6 and MW-7, located in the CPC Plant area. However, Figure 12, which presents CPC Plant area sampling locations, shows monitoring wells MP-6 and MP-7. This discrepancy in the*

monitoring well numbers should be corrected. Provide analyses parameters for ground water samples.

53. *Section 4.1.6, Page 41, Paragraph 1. The text states that soil borings in the vicinity of the former Mercury Cell Plant area will be advanced to a depth of 4 feet below the asphalt cover. However, according to the description of the Mercury Cell Plant given in section 2.1.1 on page 11, there are concrete pads and foundation under the asphalt cover. Therefore, the text should state that soil borings will be advanced 4 feet below the concrete pads and foundation to obtain samples.*

Analyze samples for total mercury and TCLP mercury.

54. *Section 4.1.7, Page 41. This section should include the method of sample collection for the Well Sand Residues or should make reference to Section 6.3.1, where this information is cited.*

Analyze samples for total mercury and TCLP mercury.

55. *Section 4.1.9, Page 42. The text states that the following four SWMUs will be sampled to meet the clean-closure equivalency requirements: the Stormwater Pond, the Brine Filter Backwash Pond, the Pollution Abatement (pH) Pond, and the Mercury Waste Pile Storage Pad. However, Section 1.2, page 4 states that five clean-closed SWMUs are subject to clean-closure equivalency demonstrations under 40 CFR 270.1(c). This discrepancy should be resolved.*

56. *Section 4.1.9, Page 42. It should be made clear why the four SWMUs listed under this section were selected, out of nine SWMUs clean closed, for clean-closure equivalency demonstrations.*

57. *Section 4.1.9, Page 43, Paragraph 1. Add the following compounds to the proposed list of analytical parameters since one or more of the collected samples exceeded the Safe Drinking Water Act Maximum Contaminant Level (MCL): Cadmium, Nickel, Selenium, Dibromochloropropane, methylene chloride and di-n-butyl phtahalate.*

58. *Section 4.1.9, Page 44. The text should cite the regulation where the Appendix IX analysis data can be obtained.*

59. Section 4.1.9, Page 44, last paragraph. *It is understood that sampling directly in the Stormwater Pond, the Brine Filter Backwash Pond, and the Pollution Abatement (pH) Pond could risk the integrity of the pond liners; however, it is uncertain whether a representative sample can be obtained from one sampling location at the base of the pond dikes. Provide proposal for additional sampling locations.*

Because it is not possible to sample directly beneath the three ponds mentioned in the text, sampling activities to be conducted around the periphery of the three ponds should include a soil sample collected from the saturated zone at the top of the surficial aquifer to appropriately characterize the potential for migration of contaminants to ground water. The sample boreholes used to collect the soil sample 2 feet below the base elevation of each pond should be advanced to the saturation depth.

60. Section 4.1.9, Page 44, last paragraph. *Because the sampling strategy that the text presents for the three ponds includes sampling outside the actual ponds, an approximate depth to the base of each pond should be stated in the text.*

61. Section 4.2, Page 46, Paragraph 2. *Because it is difficult to determine from one core sample the vertical extent of contamination for the area, additional core samples must be performed.*

62. Section 5.2, Page 48, Figure 16. *Collect sediment and biota samples at the point in the Tombigbee River where the discharge ditch enters and provide results from samples DD02-04 collected during a pervious sampling effort. This data is missing from the SAP.*

Change grid sampling locations in area of small ponds to the north of the basin. More sampling locations are needed in this area.

63. Section 6.2, Page 50, Paragraph 1, Sentence 1. *The section of the sentence "will be also be," should be changed to "also will be."*

64. Section 6.2, Page 50, Bullet 1. *The text states that all drilling equipment that comes in contact with soils within each borehole, but not in direct contact with soil samples, will undergo a one step decontamination process (steam clean or hand wash with a brush and Alconox detergent). However, this process is not in agreement with U.S. EPA's Standard Operating Procedures and Quality Assurance Manual (SOPQAM) for EPA Region IV (U.S. EPA, February 1991). Section E.9 of the manual recommends a seven-step decontamination*

process for all tools that are inserted into drilling boreholes. The seven-step decontamination process must be specified and followed.

65. *Section 6.2, Page 51. The EPA SOPQAM recommends the use of hot tap water for cleaning and rinsing stainless steel sampling equipment. In addition, equipment should be allowed to air dry at least 24 hours after the solvent rinse. Please include these steps in the appropriate descriptions of decontamination.*

66. *Section 6.2, Page 51, Step # 4. The text states that pesticide- or reagent-grade isopropanol will be used as a solvent rinse. However, the EPA SOPQAM, Section E.9, states that pesticide-grade isopropanol should be used during the decontamination procedure. The SOPQAM must be followed.*

67. *Section 6.3.1, Page 52. Analyze an initial sample of the rotary drilling mud for quality control purposes.*

68. *Section 6.3.1, Page 52, Paragraph 2, Sentence 1. The use of petroleum jelly and/or lithium grease to lubricate the threads on downhole drilling equipment is not allowed. If the equipment is cleaned (sand blasted, if necessary), the threads should be clean enough to tighten without lubricants. If lubricants are necessary, Criscol® or Teflon® tape can be used. However, prior to use of any questionable materials (compounds not specified in SOPQAM and/or approved Work Plan), provide specifications, etc. to RPM for approval.*

69. *Section 6.3.1, Page 52, Paragraph 3. The use of antifreeze should be avoided; however, if antifreeze is used, the pump and hoses should be thoroughly flushed to avoid contaminating the drilling fluids. To insure the pump and hoses are flushed thoroughly, a rinse blank should be collected.*

70. *Section 6.3.1, Page 53, Paragraph 1. The brand name of the drilling mud to be used for mud rotary drilling should be specified in the text and should also be approved by RPM before field activities begin.*

71. *Section 6.3.2.1, Page 53, Bullets 1 and 2. Butyrate plastic sleeves should not be used to collect samples. Allowable sample collection materials are glass, stainless steel, and Teflon, respectively.*

72. Section 6.3.2.1, Page 54, Bullets 1 and 3. Butyrate plastic sleeves should not be used to collect samples. Allowable sample collection materials are glass, stainless steel, and Teflon, respectively.

73. Section 6.3.2.3, Page 56, Paragraph 3. For a more complete screening of headspace measurement, use both a PID and OVA.

74. Section 6.3.2.5, Page 58. All field instruments must be post-calibrated any time the instruments are shut down (i.e., lunch time or at the end of the day).

75. Section 6.4.2.1, Page 61. The text does not indicate that samples (except for those for volatile organic analyses) will be mixed. All samples must be mixed in accordance with Section 4.2.10 of the EPA SOPQAM.

76. Section 6.7, Page 64, Paragraph 1. The first sentence references Section 4.0 for soil collection procedures. Section 4.0 is titled "Field Activities". Please clarify.

77. Section 6.7.1, Page 64. Clarify the intended use of the five blank columns across the top of the form.

78. Section 7.0, Table 13. The source used to determine the non-Contract Laboratory Program (CLP) analyte reporting limits should be stated in a footnote.

    The text should explain why hexachlorobenzene and mercury are being analyzed by non-CLP methods. Mercury is among the TAL metals and hexachlorobenzene is among the Target Compound List (TCL) semivolatile compounds.

79. Section 7.1, Page 67, Paragraph 5. Update SW-846 reference to 1991 revision.

80. Section 7.1, Page 67, last paragraph. This paragraph states inaccurately that a copy of the hexachlorobenzene screening method is provided in Appendix C. The material provided is not a copy of the method, but a copy of the results of the validation study that was performed on the method. The method description should be included in the document to support the statement in the text.

81. Section 7.1, Page 68, Paragraph 1. It is unclear why the screening method as well as the CLP method were used. Provide the rationale for using both methods.

82. Section 7.1, Page 69, Paragraph 1. The phrase "the inherent in homogeneity of the samples" should be changed to "the inherent lack of homogeneity of the samples."

83. Section 7.2, Page 69, Paragraph 3. Update SW-846 reference to 1991 revision.

84. Section 7.4, Page 82, last sentence. This sentence should read, "The purpose of data validation is to determine whether the data conform to the specifications defined as suitable for the intended project usage" or language to that effect. Please clarify.

85. Section 7.4, Page 84, last paragraph. This paragraph identifies the data that are considered non-CLP. Although 1,2,4,5-tetrachlorobenzene was not included, Table 13 indicates that it should be. Please clarify.

86. Section 7.1, Tables 16H, 16I, 16K. According to these tables, analysis for mercury is being done by method 245.1, 245.5, and 7470. The text should explain why analysis for mercury is being done by three different methods.

87. Table 15, Footnote 5. Update SW-846 reference to 1991 revision.

88. Appendix A. Provide data for samples DD02-04.